ERS 406

RESEARCH PUBLICATIONS on DAIRY MARKETING ECONOMICS

An Annotated Bibliography

UNITED STATES DEPARTMENT OF AGRICULTURE
ECONOMIC RESEARCH SERVICE

LIST OF RELATED BIBLIOGRAPHIES

THE ECONOMICS OF DAIRY MARKETING--AN ANNOTATED BIBLIOGRAPHY. Alden C. Manchester. U.S. Dept. Agr., ERS-290, 138 pp., July 1966.

MARKETING ECONOMICS RESEARCH PUBLICATIONS--A REFERENCE LIST. U.S. Dept. Agr., ERS-205, 56 pp., Apr. 1965.

A BIBLIOGRAPHY ON COSTS, MARGINS, AND EFFICIENCY IN MARKETING DAIRY PRODUCTS. A. F. Wolf, U.S. Dept. Agr., Econ. Res. Serv., Unnumb. pub., 64 pp., Mar. 1965.

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Washington, D.C. 20250

Revised April 1969

UNITED STATES DEPARTMENT OF AGRICULTURE
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MARKETING ECONOMICS DIVISION

RESEARCH PUBLICATIONS ON DAIRY MARKETING ECONOMICS--AN ANNOTATED BIBLIOGRAPHY

This is a list of dairy marketing research publications resulting from research of the Economic Research Service and predecessor agencies since World War II. It includes reports issued by ERS and its predecessors--the Agricultural Marketing Service (AMS), the Bureau of Agricultural Economics (BAE), and the Production and Marketing Administration (PMA)--publications of regional research in which those agencies participated, and cooperative and contract research reports by State agricultural experiment stations and other agencies.

Publications--especially those of predecessor agencies--which are known to be out-of-print and no longer available for distribution are indicated by an asterisk (*). Other reports may be requested from the issuing agency, which is indicated for each publication, or consulted in major libraries.

The reports are grouped by major subject-matter areas. However, reports under one heading often contain some information on topics under others.

GENERAL

1. Bowring, J. R., and Taylor, K. A. TRANSITION TO THE BULK ASSEMBLY OF MILK IN NORTHERN NEW ENGLAND. N.H. Agr. Expt. Sta. Bul. 453, 60 pp., Oct. 1958. (Under contract with AMS.)

Describes and discusses the transition of smaller dairy farms from can to tank assembly of milk. Reaction of producers, dealers, and truckers to the change-over both in prospect and in operation is provided as a guide to community farm leaders and agricultural extension personnel in the development of educational programs. Special emphasis is given to the potential savings to the industry in transportation and assembly costs.

2. Burnett, Claron, and Clodius, Robert L. PROCUREMENT POLICIES AND PRACTICES OF A SELECTED GROUP OF DAIRY PROCESSING FIRMS. PART 3. FARMER KNOWLEDGE AND EVALUATION OF PRICE AND NONPRICE FACTORS. Wis. Agr. Expt. Sta. Res. Bul. 211, 38 pp., May 1959. (AMS cooperating.)

Evaluation by dairy farmers in northwestern Wisconsin of milk procurement policies and practices used by dairy processing firms in the area. Few of the 543 dairy farmers interviewed were well enough informed about price factors to be certain that they obtained the greatest total cash return for their milk.

3. Butz, William T. LONG-DISTANCE SHIPMENT OF MARKET MILK. U.S. Dept. Agr., Mktg. Res. Rpt. 648, 12 pp., Mar. 1964.

Bulk shipments of fluid milk, 1960-61. Origins, destinations, seasonality, transportation charges, practices of handlers.

4. Carley, Dale H. TRANSPORTING PACKAGED FLUID MILK TO DISTANT MARKETS. COSTS AND SYSTEMS IN GEORGIA. Ga. Agr. Expt. Sta. Tech. Bul. N.S. 30, 38 pp., Nov. 1963. (ERS cooperating.)

Systems used and analysis of costs of transporting packaged fluid milk to markets at various distances from point of processing by two methods.

5. Carley, Dale H. OPTIMUM ASSEMBLY OF MILK SUPPLIES IN THE SOUTHEAST. South. Co-op. Ser. Bul. 92, 34 pp., Mar. 1964.

Least-cost movement of producer supplies among major Southeast markets; price alignment in Southeast markets.

6. Carley, Dale H., and Cryer, T. L. FLEXIBILITY OF OPERATION IN DAIRY MANUFACTURING PLANTS--CHANGES 1944 TO 1961. U.S. Dept. Agr., Agr. Econ. Rpt. 61, 44 pp., Oct. 1964.

Intraplant diversification in 6,134 plants manufacturing dairy products in 1961 was compared with the diversification in 9,739 plants in 1944. The volume of milk products manufactured within the different degrees of diversity was analyzed. One product was manufactured in 44 percent of the plants in 1961, compared with 72 percent in 1944. In 1961, 38 percent of the plants were partially diversified, compared with 10 percent in 1944, and 8 percent were fully diversified in 1961, compared with 1 percent in 1944. Increasing diversification indicates that flexibility in the dairy manufacturing industry increased during the period studied.

7. Carley, Dale H., Hurt, V. G., and Seale, A. D. MILK MOVEMENT PATTERNS IN THE LOWER MISSISSIPPI VALLEY, 1956 AND PROJECTED 1975. South. Co-op. Ser. Bul. 86, 54 pp., May 1963.

Movement patterns of processed fluid milk and milk products from areas of processing to areas of consumption, pricing patterns, and analysis of movement under equilibrium conditions.

8. Carley, Dale H., and Purcell, Joseph C. MILK MOVEMENT PATTERNS IN THE SOUTHEAST. South. Co-op. Ser. Bul. 84, 76 pp., Apr. 1962.

Trends in milk production and marketing and in population; sources of milk supplies and distribution patterns; prices paid to producers for Grade A milk.

9. Carley, Dale H. LONG-DISTANCE SHIPMENT OF MILK--MARKETING PRACTICES OF BUYERS AND SELLERS. U.S. Dept. Agr., ERS-230, 11 pp., June 1965.

Practices of buyers and sellers, including methods of contact and negotiation, price determination, handling charges, and obstacles to long-distance shipments.

10. Carley, Dale H., and Purcell, Joseph C. PATTERNS OF FLUID MILK DISTRIBUTION IN THE SOUTHEAST, 1959 AND PROJECTED 1975. South. Co-op. Ser. Bul. 105, 71 pp., June 1965.

Equilibrium distribution patterns for substate areas in 6 Southeastern States.

11. *Clarke, James H., Myers, Mardy, and Hunter, J. Scott. MILK VENDING--A MARKETWIDE EVALUATION IN BERKELEY COUNTY, W. VA. W. Va. Agr. Expt. Sta. Bul. 429, 58 pp., June 1959. (AMS cooperating.)

Sales of fluid milk through coin-operated vending machines averaged 1.5 percent of total milk sales in the market area from October 1955 to June 1957. More than 70 percent of milk vended was sold in plants and offices. Before installation of vending machines in these plants and offices, 19 percent of the employees used milk; after installation 63 percent used milk.

12. *Clarke, James H., and Thompson, Walter F. MERCHANDISING MILK THROUGH VENDING MACHINES. W. Va. Agr. Expt. Sta. Bul. 430, 49 pp., June 1959.

Development of milk vending, organization, locations, factors affecting sales, costs and returns, regulations, and attitudes.

13. Clodius, Robert L., Fienup, D. F., and Kristjanson, R. L. PROCUREMENT POLICIES AND PRACTICES OF A SELECTED GROUP OF DAIRY PROCESSING FIRMS. PART 1. SOME ASPECTS OF MARKET STRUCTURE, COMPETITIVE BEHAVIOR, AND MARKET RESULTS. Univ. Wis. Res. Bul. 193, 49 pp., Jan. 1956. (AMS cooperating.)

Study in northwestern Wisconsin analyzing: The characteristics of dairy firms and of their producer-patrons; the characteristics of the market environment; procurement policies (price and nonprice); market results (price and other).

14. Clodius, Robert L., Fienup, D. F., and Kristjanson, R. L. PROCUREMENT POLICIES AND PRACTICES OF A SELECTED GROUP OF DAIRY PROCESSING FIRMS. PART 2. MANAGERIAL ASPECTS OF PRICE AND NONPRICE COMPETITIVE BEHAVIOR AMONG NINE DAIRY PROCESSING FIRMS. Univ. Wis. Res. Bul. 199, 56 pp., Feb. 1957. (AMS cooperating.)

An intensive study of 9 plants in northwestern Wisconsin covering: Methods of management decision-making on prices; the role of price; implicit price factors and nonprice factors in procurement; and the role of fieldmen and haulers in procurement.

15. *Collins, Warren E. TRENDS IN THE PRODUCTION AND DISPOSITION OF MILK AND THE IMPORTANCE OF DAIRYING IN THE SOUTH, 1924-50. South. Co-op. Ser. Bul. 19, 26 pp., Dec. 1951.

Summarizes data available from secondary sources concerning the dairy industry in the South; compares statistics for the South with the rest of the United States; and traces the development of dairying in the South from 1924 to 1950.

16. *Collins, Warren E., and others. SEASONALITY OF SUPPLY AND UTILIZATION OF MILK IN THE SOUTH, 1949. South. Co-op. Ser. Bul. 25, 59 pp., July 1952.

Analyzes the seasonality of supply and utilization of milk in the South by geographic region and for milk utilized for fluid uses. Shows the average prices paid for milk in the South by months during 1949. Estimates per capita consumption of major fluid products in the South.

17. *Corty, Floyd L., and others. THE POSITION OF DAIRYING IN THE SOUTH. South. Co-op. Ser. Bul. 46, 46 pp., Sept. 1956.

Description of the area; importance of dairying to Southern agriculture; trends in the Southern dairy industry.

18. *Cowden, Joseph M., and Trelogan, Harry C. FLEXIBILITY OF OPERATION IN DAIRY MANUFACTURING PLANTS. U.S. Dept. Agr., Cir. 799, 40 pp., Sept. 1948.

Describes the degree of flexibility of operation within the dairy manufacturing plants of the country as they were operated in 1944. Plants and production for: One product, joint products, partial diversification, and general diversification.

19. *Feder, Ernest, and Williams, Sheldon W. DAIRY MARKETING IN THE NORTHERN GREAT PLAINS. ITS PATTERNS AND PROSPECTS. North Cent. Region. Pub. 47, S. Dak. Agr. Expt. Sta. Bul. 438, 59 pp., May 1954.

Analysis of differences in dairy marketing between this area (North Dakota, South Dakota, Nebraska, and Kansas) and other areas in the United States and variations in dairying within the area, and appraisal of the future of the industry in this area.

20. *Freemyer, Glenn W. HISTORY AND ANALYSIS OF MILK SUPPLY PROBLEMS IN THE ST. LOUIS MARKET. U.S. Prod. and Mktg. Admin., 156 pp., Oct. 1950.

St. Louis had supply problems similar in some respects to those of the Philadelphia market. Receipts on milk from milk producers failed to meet market requirements during several months of every year from 1939 to 1949. Causes of and remedies for the situation are analyzed.

21. *Gooch, Donald W., Harmon, Robert W., and Shipley, Oliver M. MARKETING OF DAIRY PRODUCTS, 1936-1940. Libr. List No. 43, 75 pp., June 1948.

A list of reference materials.

22. Harrington, A. H., and Calhoun, Wendell. THE DAIRY BALANCE OF THE PACIFIC SLOPE. West. Region. Pub., Wash. Agr. Expt. Sta. Cir. 191, 17 pp., May 1952.

Analyzes the supply-consumption balance on the Pacific Slope in 1949 and projects future production and consumption trends.

23. Huelskamp, Henry J. EVALUATION OF RETAIL MERCHANDISING PRACTICES FOR PEARS, PEANUT BUTTER, AND CREAMERY BUTTER. U.S. Dept. Agr., Mktg. Res. Rpt. 180, 16 pp., June 1957.

Controlled retail store experiments to measure the effect of specific merchandising practices on the sales of pears, creamery butter, and peanut butter in St. Louis, Mo., Jan. 16-Apr. 7, 1956.

24. *Huelskamp, Henry J., Hoofnagle, William S., and Myers, Mardy. EFFECT OF SPECIFIC MERCHANDISING PRACTICES ON RETAIL SALES OF BUTTER. U.S. Dept. Agr., Mktg. Res. Rpt. 117, May 1956.

Controlled retail store experiments to measure the effect of specific merchandising practices on the sales of butter.

25. Jacobson, M. A., and Babb, E. M. ANALYSIS OF A DAIRY MANAGEMENT INFORMATION SYSTEM. Purdue Agr. Expt. Sta. Res. Prog. Rpt. 165, 25 pp., Mar. 1965. (ERS cooperating.)

Study of 4 case examples to determine the value of a proposed management information system in fluid milk operations.

26. Jeffrey, Arthur D. BALANCING PROBLEMS OF INDEPENDENT MILK DEALERS OPERATING SMALL AND MEDIUM SIZE PLANTS. Northeast Region. Pub. 39, N. H. Agr. Expt. Sta. Bul. 460, 30 pp., June 1959.

Policies and methods of balancing milk supplies with fluid sales used by small and medium size independent dealers and the factors influencing a dealer's decision as to the method used.

27. Jeffrey, Arthur D. PLANT RECEIPTS AND USES OF MILK IN FOUR LEADING MARKETS OF THE NORTHEASTERN STATES. Northeast Region. Pub. 36, Cornell Agr. Expt. Sta. A.E. 1091, 101 pp., Apr. 1958.

Detailed information on the plant receipts and disposition of milk for 4 of the principal markets of the Northeast for 1954. Detailed information on organization of these markets is given and a description and explanation of the principal marketing institutions and conditions has been prepared for each of the markets.

28. Jeffrey, Arthur D. THE PRODUCTION-CONSUMPTION BALANCE OF MILK IN THE NORTHEAST REGION. Northeast Region. Pub. 29, Cornell Agr. Expt. Sta. A.E. 1055, 97 pp., June 1957.

Overall picture of the production and use of milk in the Northeastern States for 1947-54. Quantities of milk produced on farms and its disposal by farmers in each State of the region, plant receipts and uses of milk, and prices paid by dealers.

29. Jones, W. Webster. CHANGING PATTERNS IN THE MARKETING OF FLUID MILK--TYPES OF MILK, TYPES OF SALE, AND TYPES AND SIZES OF CONTAINERS. U.S. Dept. Agr., Econ. Res. Serv., 365 pp., 1968.

Updates the information presented in "Changing Patterns in Fluid Milk Distribution--Types of Milk, Channels of Sale, Types and Sizes of Containers," Mktg. Res. Rpt. 135, Aug. 1956. Shows a selected number of changes that have

occurred in the marketing of milk in the United States. Data are consolidated to show important trends in the fluid milk industry.

30. Jones, W. Webster. THE MARKETING OF COTTAGE CHEESE AND FROZEN DAIRY PRODUCTS IN KANSAS, MISSOURI, AND OKLAHOMA. U.S. Dept. Agr., Mktg. Res. Rpt. 504, 24 pp., Oct. 1961.

Study of marketing of cottage cheese and frozen dairy products by 35 plants in 1959. Covers production, advertising and sales promotion, distribution practices, and importance of these products in the plants' operations.

31. Jones, W. Webster. ECONOMICS OF MILK MARKETING IN ALASKA. U.S. Dept. Agr., Mktg. Res. Rpt. 675, 34 pp., Sept. 1964.

Supply of dairy products in Alaska, consumption, procurement, processing, distribution, costs and margins; changes, 1957-63.

32. Kerchner, Orval G. UTILIZATION OF PLANT CAPACITY IN MINNESOTA DAIRY MANUFACTURING FIRMS. U.S. Dept. Agr., ERS-349, 19 pp., June 1967.

Discussion of plant capacity, receipts, and other plant characteristics, including utilization of capacity, and analysis of various factors associated with capacity utilization. Capacity of Minnesota dairy manufacturing plants is not fully utilized even in the flush period. Small plants must compete with larger plants for whole milk supplies. They have expanded plant facilities only to find it difficult to obtain sufficient milk to operate at full capacity. The result is unused capacity. Managers of multiplant operations could consider closing one plant during slack periods and transfer milk to other plants. Single-plant operations could arrange to transport milk to another plant and cease local operations.

33. Klein, Jack E., and Gray, Leo R. DRIVE-IN DAIRIES IN CENTRAL CALIFORNIA, DEVELOPMENT, ORGANIZATION, AND OPERATION. U.S. Dept. Agr., Mktg. Res. Rpt. 636, 11 pp., Dec. 1963.

Factors influencing development of drive-in dairies; organization of drive-ins; procurement and operating practices.

34. Kreider, Eldon L. AN EVALUATION OF DATA PROCESSING SYSTEMS FOR DAIRY FIRMS. Purdue Agr. Expt. Sta. Res. Bul. 834, 24 pp., Aug. 1967, (ERS cooperating.)

Evaluation of various types of information systems for milk companies.

35. Lasley, Floyd A. COORDINATING FLUID MILK SUPPLIES IN THE OKLAHOMA METROPOLITAN MILK MARKET. U.S. Dept. Agr., Mktg. Res. Rpt. 686, 56 pp., Nov. 1964.

How does supply management influence the reserve needed? Milk handlers carry a reserve supply to meet seasonal, weekly, and daily fluctuations in both supply and demand. A central firm can manage the supply for several plants more economically and with smaller reserve than can the individual plants. These savings result from reduced uncertainty, greater flexibility and economies of scale.

36. Lasley, Floyd A. COORDINATING FLUID MILK SUPPLIES IN THE PITTSBURGH MARKET. U.S. Dept. Agr., Mktg. Res. Rpt. 746, 51 pp., Mar. 1966.

Efficiency of methods of coordinating milk supplies with demand in Pittsburgh, by individual handlers. Reserves required under different methods and costs of managing and handling flow of milk by different methods.

37. *Lee, James D. SEASONALITY OF MILK DELIVERIES IN THE BOSTON MILKSHED. U.S. Dept. Agr., BAE, 46 pp., June 1949.

Seasonal relatives showing seasonality in milk deliveries in the Boston milkshed, 1938-48. Compares seasonality in different areas of the milkshed.

38. MacPherson, Donavon D. THE MARKET FOR CLASS II MILK IN OKLAHOMA, KANSAS, AND WESTERN MISSOURI. U.S. Dept. Agr., Mktg. Res. Rpt. 263, 46 pp., Aug. 1958.

Analyzes the market for surplus milk: (1) By whom and how surplus is handled, (2) products processed from surplus milk, and (3) where products are marketed.

39. Manchester, Alden C. THE STRUCTURE OF FLUID MILK MARKETS. TWO DECADES OF CHANGE. U.S. Dept. Agr., Agr. Econ. Rpt. 137, 51 pp., July 1968.

Study of organization and concentration in fluid milk markets in the United States: Number and type of firms operating fluid milk plants in 1965 in the United States and in 85 individual markets, with changes 1948-65; market shares by various measures and in 85 individual markets; and changes in market shares.

40. Manchester, Alden C. FLUID MILK MARKETS, NUMBER OF HANDLERS AND MARKET SHARES, 1950-65. U.S. Dept. Agr., Stat. Bul. 428, 83 pp., June 1968.

Detailed information on the structure of individual fluid milk markets. Supersedes "Market Shares in Fluid Milk Markets," Rev. April 1964. Provides information for additional markets and updates and corrects previously published data.

41. Manchester, Alden C. DAIRY MARKETING. U.S. Dept. Agr., ERS-318, pp. 150-169, Oct. 1966. (Reprinted from Agricultural Markets in Change.)

Commercialization of dairy farming; changes in demand; retailing; growth of large dairy companies; structure of fluid milk markets; and market power.

42. *Manchester, Alden C., and Sitzman, Leah. MARKET SHARES IN FLUID MILK MARKETS. U.S. Dept. Agr., Econ. Res. Serv., 73 pp., Rev. Apr. 1964.

Data from 69 Federal order markets on number of handlers and the share of the market of the four largest handlers, by market, 1950-62.

43. Manchester, Alden C. NATURE OF COMPETITION IN FLUID MILK MARKETS...MARKET ORGANIZATION AND CONCENTRATION. U.S. Dept. Agr., Agr. Econ. Rpt. 67, 76 pp., Feb. 1965.

Market structure, 1962; number and type of handlers, market shares; changes in number and type of handlers, market shares; growth rates; entry and exit.

44. Manchester, Alden C. THE ECONOMICS OF DAIRY MARKETING--AN ANNOTATED BIBLIOGRAPHY. U.S. Dept. Agr., ERS-290, 139 pp., July 1966.

Annotated references on all aspects except costs and margins.

45. Manning, Travis W., and Nelson, Ralph E. PROCUREMENT POLICIES AND PRACTICES OF DAIRY MANUFACTURING PLANTS IN EASTERN SOUTH DAKOTA. PART III. MANAGERIAL DECISION MAKING. S. Dak. Agr. Expt. Sta. Bul. 498, 51 pp., Dec. 1962. (ERS cooperating.)

Second in a two-part series, this report concludes that decision making could be improved through (1) lessened emphasis on competitive strategy where it conflicts with marketing efficiency, (2) use of more reliable information, (3) improved management training, and (4) better understanding of dairy marketing problems and procedures by directors, members, and patrons of the 11 producer-integrated butter manufacturing plant studies.

46. Mathis, Anthony G. THE PROBABLE IMPACT OF MILK CONCENTRATES ON THE FLUID MILK MARKET. U.S. Dept. Agr., Mktg. Res. Rpt. 208, 24 pp., Feb. 1958.

Concentrated milk will probably not displace a major part of fresh fluid milk. Acceptance of new concentrated milk products will depend largely on the price advantage consumers can obtain to offset real or fancied inconveniences. Price, costs, consumer acceptance, and different forms of concentrated milk are studied.

47. *Miller, Clarence J., and Williams, Sheldon W. POTENTIAL ADJUSTMENTS IN DAIRY MARKETING IN THE NORTHERN PLAINS STATES. North Cent. Region. Pub. 94, Nebr. Agr. Expt. Sta. Bul. 450, 36 pp., July 1959.

Analyzes the dairy situation in the Northern Plains farmers' attitudes toward change, and the future of the dairy industry in this area.

48. Nelson, Ralph E., and Manning, Travis W. PROCUREMENT POLICIES AND PRACTICES OF DAIRY MANUFACTURING PLANTS IN EASTERN SOUTH DAKOTA. PART I. MARKET STRUCTURE AND BEHAVIOR. S. Dak. Agr. Expt. Sta. Bul. 497, 52 pp., Sept. 1961.

Analysis of the structure, conduct, and performance of the market for manufacturing milk in eastern South Dakota.

49. Parsons, M. S., Frick, G. E., Pullen, W. E., and Bredo, William. THE SEASONAL ADJUSTMENT OF MILK PRODUCTION IN THE BOSTON MILKSHED. U.S. Dept. Agr., BAE, 57 pp., June 1950.

Gives the extent of seasonal variation from year to year and presents case examples of individual farms. Lists the reasons why farms vary in seasonal patterns and farmers' opportunities for seasonal adjustments. Discusses seasonal milk pricing policy in terms of its relationship to freshening patterns and economic effects of reducing seasonal milk supplies.

50. Reichert, Charlotte F. MARKET ORGANIZATION, PROMOTIONAL ACTIVITIES, AND PRACTICES OF FLUID MILK PLANTS IN THE WESTERN REGION. West. Region. Pub., Oreg. Agr. Expt. Sta. Tech. Bul. 59, Mar. 1962. (ERS cooperating.)

Survey of 478 plants in 11 Western States in 1957-58. Industry organization, structure, outlets, marketing practices, advertising and promotion programs.

51. Rowe, Gordon A. CHANGES IN MILK UTILIZATION, PORTLAND MILKSHED, 1940-50. Oreg. Agr. Expt. Sta. Cir. Inform. 512, 12 pp., June 1952.

Describes the changes in milk utilization in the Portland milkshed brought about by the rapid increase in population during the decade 1940-50. The growth of population exceeded expansion in milk production resulting in the sale of a greater proportion of milk for fluid milk and ice cream use. This required extension of milkshed changes in the pattern of farm marketing, and adjustments in the location of manufacturing facilities.

52. Russell, Sargent. PRODUCER DELIVERY PATTERNS IN NEW ENGLAND MILK MARKETS. U.S. Dept. Agr., Mktg. Res. Rpt. 672, 111 pp., July 1964. (Vt. and Maine Stas. cooperating.)

Study of milk deliveries by 3,547 farmers for 3 years; farmers leaving the market; year-to-year changes in production and in seasonal patterns.

53. Russell, Sargent, and Webster, Fred. PRODUCER DELIVERY PATTERNS AMONG NEW ENGLAND FARMERS. Univ. Vt. Pam. 34, 36 pp., Dec. 1964.

Condensation of U.S. Dept. Agr. Mktg. Res. Rpt. 672 on producer delivery patterns in New England Federal order markets.

54. *Schutz, Willard D. MARKETING GRADE A MILK. MOVEMENT, UTILIZATION, AND PRICING IN SIX WESTERN STATES AND ALASKA. West. Region. Pub., Wyo. Agr. Expt. Sta. Bul. 342, 23 pp., July 1956.

Movements of milk between States, methods of delivery of milk to plants, bases of price determination and prices paid, type of containers, and utilization of Grade A milk in Colorado, Wyoming, Utah, Idaho, Oregon, Washington, and Alaska in 1953.

55. Smith, Helen V., and Herrmann, Louis F. CHANGING PATTERNS IN FLUID MILK DISTRIBUTION: TYPES OF MILK, CHANNELS OF SALE, TYPES AND SIZES OF CONTAINERS. U.S. Dept. Agr., Mktg. Res. Rpt. 135, 138 pp., Aug. 1956.

Milk distributors in many parts of the country were selling increasing proportions of their milk in half-gallon and gallon containers instead of quarts; in paper containers instead of glass. In nearly all the markets studied, homogenized milk was rapidly replacing regular milk.

56. Stockman, L. H., and Clement, Wendell E. EFFECTS OF COUPONS AND SPECIAL OFFERS ON SALES OF BUTTER, MARGARINE, SHORTENING, AND SALAD AND COOKING OILS. U.S. Dept. Agr., Mktg. Res. Rpt. 356, 23 pp., Aug. 1959.

The most apparent effect of coupons and special promotion offers in influencing the demand for butter, margarine, shortening, and salad and cooking oils was to influence some consumers temporarily to switch brands. Among families most likely to use deals were (1) Those that were white, large, in upper income level, and of higher educational level than those not availing themselves of the deals, or (2) those that had a young homemaker.

57. Williams, Sheldon W., and Kerchner, Orval G. DISPOSING OF SURPLUS FLUID MILK IN MIDWESTERN MARKETS. North Cent. Region. Pub. 113, Ill. Agr. Expt. Sta. Bul. 664, 52 pp., Sept. 1960.

This study classifies the arrangements used in handling surplus milk of bottling quality in the North Central Region; examines relationships between the arrangement in use and characteristics such as size of market, type of agency responsible for surplus disposal, and the status of the manufacturing milk industry in the area; and evaluates the suitability of various handling arrangements to different market situations.

58. A DECADE OF CHANGE IN THE DAIRY INDUSTRY, 1950-1960. U.S. Dept. Agr., ERS-44, 9 pp., Nov. 1961.

Charts and tables showing changes in cow numbers, production, consumption, outlets, and income.

59. *HANDBOOK OF DAIRY STATISTICS. North Cent. Region. Tech. Com. for Dairy Marketing Res., Ill. Agr. Expt. Sta., 262 pp., 1953.

Detailed economic statistics for the United States and specified States and markets, including number of producers, total deliveries, average daily deliveries, population, average daily sales of whole milk, cream, and miscellaneous drinks, average annual income per person, dealers' selling prices, average prices paid producers, butterfat differentials, and average butterfat tests in selected fluid milk markets. Also includes cow numbers, production per cow, and total annual milk production for the United States and for specified States and indices of costs of food in specified markets and the United States.

60. MARKETING MELLORINE IN SEVEN TRADE AREAS. U.S. Dept. Agr., Mktg. Res. Rpt. 296, Univ. Kans. Bur. Business Res., 41 pp., Dec. 1958.

Case studies were made in Dallas-Fort Worth; Tulsa; Little Rock; St. Louis; Portland-Corvallis, Oreg.; Springfield, Ill.; and Charleston, S. C., in 1957. Competition among frozen desserts seems to be secondary to the competition among frozen dessert manufactures. Sales of mellorine in the seven areas studied are affected by price, promotion, and the marketing strategy of frozen dessert manufacturers in each area.

61. PRODUCTION AND MARKETING PRACTICES FOR MELLORINE. A STUDY OF THE MARKETING OF FROZEN DESSERTS. U.S. Dept. Agr., Mktg. Res. Rpt. 212, 79 pp., Feb. 1958. (Under contract with Univ. Kans. Bur. Business Res.)

Legal basis of the industry; production volume; manufacturing ingredients, problems and cost; market outlets; sales practices; container sizes; promotion and advertising; and gross margins.

62. OUTER-MARKET DISTRIBUTION OF MILK IN PAPER CONTAINERS IN THE NORTH CENTRAL REGION. North Cent. Region. Pub. 39, Purdue Agr. Expt. Sta. Bul. 600, 44 pp., Oct. 1953.

Describes a survey to obtain information about the extent of distribution of milk in paper containers outside the cities and towns in which it was packaged and the sales channels used. Analyzes the reasons for the rapid growth of outer-market distribution and lists the barriers inhibiting expansion in some instances. Points out the problems created as the result of widening distribution areas.

63. THE PHILADELPHIA MILK SUPPLY. U.S. Dept. Agr., Prod. and Mktg. Admin., 100 pp., July 1950.

The circumstances surrounding unwillingness of a number of handlers in the Philadelphia market to handle surplus milk during the flush production months. Five factors contributing to this situation are analyzed.

CONSUMPTION, DEMAND

64. Ballinger, Roy A., and Larkin, L. C. SWEETENERS USED BY THE DAIRY INDUSTRY. THEIR COMPETITIVE POSITION IN THE UNITED STATES. U.S. Dept. Agr., Agr. Econ. Rpt. 30, 18 pp., Apr. 1963.

Sweeteners (sugar, dextrose, and corn sirup) used in dairy products (ice cream, sweetened condensed milk, and sweetened milk products), 1952-61.

65. Carley, Dale H. CONSUMPTION AND DEMAND FOR ICE CREAM IN THE URBAN SOUTH. South. Co-op. Ser. Bul. 76, 31 pp., Jan. 1961.

Factors affecting ice cream consumption by households in 12 southern cities in 1955-56. Comparison of time-series and cross-section data on consumption.

66. Clement, Wendell E., and Henderson, Peter L. CONSUMER RESPONSE TO VARIOUS LEVELS OF ADVERTISING FOR FLUID MILK. U.S. Dept. Agr., Mktg. Res. Rpt. 805, 12 pp., Oct. 1967.

Second report on effects of different levels of promotional expenditures on sales of fluid milk; consumer survey by ADA; and sales for 1 year after the experiment.

67. Cook, Hugh L., and Halvorson, Harlow. INDUSTRIAL USES AND PREFERENCES FOR NONFAT DRY MILK SOLIDS. Wis. Agr. Expt. Sta. Res. Bul. 169, 47 pp., Aug. 1950.

Analyzes the market for nonfat dry milk solids and the factors affecting the demand for nonfat dry milk solids for different kinds of users. Analyzes the

substitution between milks and other ingredients for different users in terms of response to price and legal requirements. Recommends expanding bakery outlets for nonfat dry milk solids, stressing comparative advantages of nonfat dry milk solids, tailoring the product to specific needs of users, improving distribution, improving information, and changing standards of identity.

68. Cook, Hugh L., and Hussemann, Dorothy L. CONSUMER ACCEPTANCE OF DRY MILK IN QUANTITY COOKERY. Wis. Agr. Expt. Sta. Res. Bul. 164, 32 pp., Jan. 1950.

Develops formulas for using dry milk in preparation of certain food dishes and evaluates the dishes by taste panel technique. Shows that the use of dry milk may be increased in scalloped potatoes, baked custard, chocolate blanc mange, and creamed salmon and peas without decreasing the preferences for the products. However, in no case were preferences for these products increased by increasing milk solids content. Dry milk was an acceptable substitute for fluid milk or evaporated milk in the preparation of these products. The amount of nonfat solids which could be used was limited by an observed thickening effect.

69. *Corty, Floyd L., and Purcell, Joseph C. CONSUMPTION AND DEMAND. FLUID MILK AND MILK SUBSTITUTES IN THE URBAN SOUTH. South. Co-op. Ser. Bul. 53, 40 pp., Oct. 1957.

Analysis of milk purchasing practices and consumption and demand for fluid milk and substitutes, based on a survey of households in 12 cities in 1955.

70. Cropp, Robert A., Moede, Herbert H., and Graf, Truman F. MARKETING POTENTIAL FOR STERILIZED MILK CONCENTRATE IN INSTITUTIONAL OUTLETS. Wis. Agr. Expt. Sta. Res. Bul. 271, 32 pp., June 1968. (ERS cooperating.)

Second of two publications reporting results of marketing research on a new dairy product--sterilized milk concentrate. Presents the results of a product placement test for sterilized milk concentrate in a sample of selected Midwestern and Eastern institutions.

71. Dwoskin, Philip B. MILK PRODUCTS: CONSUMER PURCHASE PATTERNS AND USE, MEMPHIS, TENNESSEE. U.S. Dept. Agr., Mktg. Res. Rpt. 39, 68 pp., May 1953.

Part of the decline in sales of fresh fluid milk in the Memphis market between 1950 and 1952 resulted from substitution of nonfat dry milk solids for fresh milk products, although other factors also operated to reduce sales of the fresh product. But many consumers have substituted the dry products for the fresh in cooking and baking and some have used it as a substitute for or a supplement to fresh milk for drinking.

72. Dwoskin, Philip B., Bayton, James A., and Hoofnagle, William S. CHANGING PATTERNS OF MILK CONSUMPTION IN MEMPHIS, TENNESSEE. U.S. Dept. Agr., Mktg. Res. Rpt. 69, 77 pp., June 1954.

Current use patterns for dairy products and substitutes and changes, 1951-53; consumer knowledge and preferences.

73. Herrmann, Louis F., Haynes, Lawrence W., Adams, Keister, and Rojko, Anthony S. ESTIMATING STATISTICS OF MILK CONSUMPTION IN RELATION TO TRENDS IN FLUID MILK MARKETING. U.S. Dept. Agr., ERS-70, 12 pp., May 1962.

Review of development and present status of milk consumption statistics published by the USDA and their usefulness in evaluating developments in milk marketing.

74. McGrath, Edward J., Campbell, Proctor, and Myers, Mardy. COTTAGE CHEESE: ITS SALES POTENTIAL IN SELECTED MARKETS. U.S. Dept. Agr., Mktg. Res. Rpt. 391, 32 pp., Apr. 1960.

Analyses of sales in 7 test markets in the North Central and Southeastern areas.

75. McGrath, Edward J. THE MARKET FOR SOUR CREAM. U.S. Dept. Agr., Mktg. Res. Rpt. 448, 36 pp., Jan. 1961.

Trend of sour cream sales is definitely upward. Sales of cultured sour cream in 1957, reported in a national mail survey, amounted to 73 million pounds. This quantity represented at least 90 percent of the U.S. total. Ninety-seven percent of the distributors and processors who returned the questionnaire said their volume was larger in 1957 than in 1956. Sales increased further in 1958 and 1959.

76. McGrath, Edward J., and Weidenhamer, Margaret. SOUR CREAM. A STUDY OF ITS MARKET POTENTIAL IN DES MOINES, IOWA. U.S. Dept. Agr., Mktg. Res. Rpt. 368, 43 pp., Oct. 1959.

A study to determine the possibilities of expanding the market potential of a uniform, high-quality cultured sour cream, conducted in Des Moines, Iowa, July 1957-April 1958. Response to an intensive promotional campaign.

77. *MacLeod, Alan, Spencer, Leland, and Forker, R. K. WHAT MAKES THE MARKET FOR DAIRY PRODUCTS? North Cent. Region. Pub. 10, Wis. Agr. Expt. Sta. Bul. 477, Sept. 1948.

A review and summary of research concerning the consumption of, and demand for, milk and dairy products. Includes a bibliography of 101 references.

78. Moede, Herbert H., Cropp, Robert A., and Graf, Truman F. MILK CONSUMPTION AND FOOD SERVICE PATTERNS IN SELECTED EASTERN AND MIDWESTERN INSTITUTIONS. U.S. Dept. Agr., Mktg. Res. Rpt. 800, 39 pp., June 1967. (Wis. Agr. Expt. Sta. cooperating.)

Deals with use patterns of fluid and dry milk products in selected eastern and midwestern institutions. Represents one phase of a broader study of a new dairy product--sterilized milk concentrate.

79. Purcell, Joseph C. PROSPECTIVE DEMAND FOR MILK AND MILK PRODUCTS IN THE SOUTH. South. Co-op. Ser. Bul. 68, 79 pp., Oct. 1959.

Analysis of consumption of milk and milk products, trends in factors associated with consumption, and prospective demand to 1975.

80. Van Dress, M. G., and Myers, Mardy. EFFECT OF CONSUMER PURCHASES OF NONFAT DRY MILK ON PURCHASES OF FRESH, EVAPORATED, AND FILLED MILK. U.S. Dept. Agr., Mktg. Res. Rpt. 372, 32 pp., Nov. 1959.

Families purchasing nonfat dry milk have a higher total consumption of milk products than families not using nonfat dry milk. Patterns of milk purchases of 477 families in a consumer panel in the Chicago metropolitan area were studied over a 3-year period.

COSTS AND MARGINS

81. Agnew, Donald B. HOW BULK ASSEMBLY CHANGES MILK MARKETING COSTS. U.S. Dept. Agr., Mktg. Res. Rpt. 190, 91 pp., July 1957.

Advantages and disadvantages of bulk assembly of milk; changes in customary tasks, changes in ownership and control of milk collection routes, and the accompanying changes in costs. Stresses the impact of bulk milk assembly on the structure of milk marketing and milk supply.

82. Barry, Goodloe, Reinbold, Thomas D., and Enger, Mark R. EVALUATION OF NEW CONTAINERS FOR SCHOOL MILK. U.S. Dept. Agr., Mktg. Res. Rpt. 407, 46 pp., June 1960.

Case studies of tetra container and 5-gallon dispenser can. Packaging costs, prices, work methods, advantages and disadvantages of new containers compared to ½-pint cartons.

83. Blake, Helen T., and Friend, Lloyd F. MILK DATING REGULATIONS--THEIR EFFECT ON MILK DISTRIBUTION AND MERCHANDISING PRACTICES. U.S. Dept. Agr., Mktg. Res. Rpt. 415, 36 pp., Rev. Mar. 1961.

Study of the extent and nature of dating requirements for fluid milk and their economic consequences in 34 areas having some type of dating regulation in 1957, compared with a number of areas without dating regulations.

84. Conner, Maynard C., Spencer, Leland, and Pierce, C. W. SPECIFICATIONS AND COSTS FOR A MILK PASTEURIZING AND BOTTLING PLANT. Northeast Region. Pub. 16, Va. Agr. Expt. Sta. Bul. 463, 48 pp., 1953.

A model fluid milk processing plant with detailed design and costs specifications, developed in consultation with a firm of management engineers, dairy manufacturing specialists, and equipment companies. Modifications in the original model plant to test the effect on costs of reduced volume of output, handling of surplus milk, purchase of some by-products, and combined glass-paper operations.

85. Cook, Hugh L., and Little, J. Kenneth. MARKETING COSTS AND MARGINS FOR SELECTED LOTS OF WISCONSIN CHEDDAR CHEESE. Wis. Agr. Expt. Sta. Res. Bul. 210, 46 pp., May 1959. (AMS cooperating.)

Case studies of the services performed and the margins and costs associated with moving selected lots of American cheese from the producer to the consumer.

86. Dubov, I., and MacPherson, Donavon D. FARM-TO-RETAIL PRICE SPREADS FOR CHEDDAR CHEESE IN THE SOUTH. U.S. Dept. Agr., Mktg. Res. Rpt. 318, 23 pp., Apr. 1959.

Eight lots of cheese produced and marketed in the Southeast were analyzed as to costs and merchandising methods from the time the whole milk was received at the plant until the cheese was offered for sale by retailers. The lots were produced in 4 different plants at different times of the year. Total plant costs ranged from 30.2 to 35.5 cents per pound. Prices to consumers ranged from 39 to 69 cents per pound; farm-to-retail price spreads varied from 17 to 48 cents; and the farmer's share of the consumer's dollar ranged from 31 to 56 percent.

87. Fitzpatrick, John M., and French, Charles E. IMPACT OF SEASONALITY OF MILK SUPPLIES ON LABOR COSTS AND EFFICIENCY IN DAIRY MANUFACTURING PLANTS. Purdue Agr. Expt. Sta. Res. Bul. 774, 36 pp., Mar. 1964. (Econ. Res. Serv. cooperating.)

This study, in 7 Indiana milk manufacturing plants, found that evening out production to process equal amounts each month at the average annual rate would reduce labor costs about 10 percent and total costs less than 1 percent. Evening out production at the peak production rate would reduce labor costs about 20 percent, which would allow 19 cents per hundredweight for supplemental milk procurement.

88. Freeman, Robert E. FARM-RETAIL PRICE SPREADS FOR DAIRY PRODUCTS, 1939-66. U.S. Dept. Agr., Mktg. Res. Rpt. 798, 31 pp., June 1967.

Farm-retail price spreads for dairy products provide a statistical summary of what happens to milk from the time it is delivered to the plant until it reaches the consumer as bottled milk, butter, cheese, evaporated milk, or ice cream. Explores fundamental changes in milk production and marketing which underlie changes in farm and retail prices and in farm-retail price spreads. Two principal analytical techniques were applied to the data for this purpose. First, price levels were compared with farm-retail price spreads among the various dairy products. Second, trends over time were compared with observable changes in the technology of processing and transportation and in distribution through wholesale and retail channels.

89. Gray, Leo R., MacPherson, Donavon D., and Phillips, Victor B. PRICES AND PRICE SPREADS FOR BEEF, EGGS, AND FLUID MILK IN SELECTED MARKETS OF THE UNITED STATES AND EUROPE. U.S. Dept. Agr., ERS-37, 20 pp., Dec. 1961.

Comparison of farm-to-retail price spreads and retail prices on the basis of dollar amounts and of equivalent labor-time requirements, 1955-56.

90. Harris, Edmond S. MARKETING MARGINS FOR BUTTER. U.S. Dept. Agr., Mktg. Res. Rpt. 289, 45 pp., Nov. 1958.

The farm value of butterfat used in making butter has fluctuated more widely than the retail price of butter. No pronounced single trend is noted in the marketing margin during the 1919-57 period. Ten actual shipments were studied

to provide greater understanding of the butter marketing process. These studies illustrate the variety of services that the several marketing agencies perform in processing butter and moving it to the consumer.

91. *Herrmann, Louis F., and Baill, M. FARM-TO-RETAIL MARGINS FOR FLUID MILK. U.S. Bur. Agr. Econ., 29 pp., Nov. 1951.

Compares the 1948 and 1949 price spreads on fresh fluid milk among markets with respect to: Geographic location, population, differential between milk delivered to home and milk sold in stores, Government regulation, wage rates for drivers of milk trucks, level of prices paid farmers, differences between prices paid farmers for milk used for fluid milk and milk used for cream, price spread between milk used as fluid and milk used for producing cream and cottage cheese jointly, per capita consumption of milk and per capita income.

92. *Herrmann, Louis F., and Friend, Lloyd F. FARM-TO-RETAIL PRICE SPREADS FOR FLUID MILK IN CHICAGO. U.S. Dept. Agr., Mktg. Res. Rpt. 246, 31 pp., June 1958.

A sample survey of 733 Chicago families showed that households that purchased milk paid an average price of 21.5 cents a quart. The equivalent farm price was 8.8 cents a quart. The marketing margin based on single quarts of milk delivered to homes increased from 11.5 cents a quart in January 1947 to 16.5 cents in December 1957. More than twice as much milk was bought from stores as from home delivery routes in May 1956; about 1 percent was bought from vending machines.

93. *Herrmann, Louis F., and Whatley, Thomas J. COSTS AND MARGINS OF MILK DISTRIBUTORS IN MEMPHIS, TENNESSEE, IN 1948. U.S. Dept. Agr., BAE. 30 pp., 1950.

Shows sales, expenses, and profits for a group of milk distributors in Memphis, Tennessee. Compares expenses for retail and wholesale distributors, large and small dealers, and compares price spreads and measures of performance for Memphis with other markets.

94. *Howe, C. B. MARKETING MARGINS AND COSTS FOR DAIRY PRODUCTS. U.S. Dept. Agr., Tech. Bul. 936, 82 pp., Nov. 1946.

Marketing margins and costs and marketing channels for fluid milk, butter, American cheese, and evaporated milk, mostly for 1939.

95. Jones, W. Webster. BUTTER AND NONFAT DRY MILK PRODUCTION IN DIVERSIFIED PLANTS IN KANSAS, MISSOURI, AND OKLAHOMA. U.S. Dept. Agr., Mktg. Res. Rpt. 430, 51 pp., Sept. 1960.

Analyzes methods and costs of producing butter and nonfat dry milk and procurement, processing, and distribution practices and costs.

96. Kerchner, Orval G. COSTS OF TRANSPORTING BULK AND PACKAGED MILK BY TRUCK. U.S. Dept. Agr., Mktg. Res. Rpt. 791, 24 pp., May 1967.

Develops transportation costs for bulk and packaged milk using synthetic cost analysis to derive fixed and variable costs for three regions of the United States. Average costs were computed in terms of hundredweight, mileage, and hundredweight per mile and appear in tabular form for the three regions. Cost functions were derived to illustrate relationship between distance and cost per hundredweight.

97. Klein, Jack E. COSTS OF DISTRIBUTING MILK THROUGH VENDING MACHINES AND BY RETAIL AND WHOLESALE ROUTES, MARTINSBURG, W. VA. U.S. Dept. Agr., Mktg. Res. Rpt. 229, 42 pp., May 1958.

Describes the operations and compares the costs of milk distribution by vending machine, home delivery, and wholesale routes, when vending is carried on as a complement rather than in competition with wholesale and retail route distribution. Both the physical and monetary costs involved in milk vending are presented as a guide in learning whether such operations are feasible.

98. Klein, Jack E. MARKETING MILK IN ALASKA. U.S. Dept. Agr., Mktg. Res. Rpt. 385, 29 pp., Mar. 1960.

Analyzes Alaskan milk marketing practices, sources of supply, and types of milk distributed in Alaska. Less than half of the milk drunk in Alaska is fresh milk; a large market exists for other forms of milk, such as recombined, concentrated, evaporated, and dry milk.

99. Korzan, G. E., Davis, A. B., and MacPherson, Donavon D. COSTS OF DISTRIBUTING MILK IN THE PORTLAND MARKET. Oreg. Agr. Expt. Sta. Bul. 510, 23 pp., Feb. 1952.

Average unit costs were computed from 1949 cost data obtained from 20 milk distributors in the Portland market. Unit costs were related to the size of business; costs of processing milk in glass and paper containers were compared; and cost of distributing milk at wholesale and retail were computed.

100. MacPherson, Donavon D. MILK DISTRIBUTORS' OPERATIONS--ANALYSIS OF GROWTH, SALES DISTRIBUTION, COSTS AND PROFITS. U.S. Dept. Agr., ERS-84, 62 pp., Nov. 1962.

Quarterly data on the costs of processing and distributing fluid milk, 1952-61, and special analyses that appeared in the quarterly reports.

101. MacPherson, Donavon D., and Maldonado, Jesus L. COSTS, NET MARGINS, AND SELLING PRICES OF BEVERAGES SOLD IN AN EMPLOYEE FOOD SERVICE. U.S. Dept. Agr., Mktg. Res. Rpt. 464, 27 pp., Apr. 1961.

Describes the relation of costs and margins to prices for beverages in a cafeteria operated for employees in an office building in Washington, D.C. During a 2-week period, 56 percent of the 106,000 beverage sales were coffee, 17 percent tea, 14 percent milk, and 13 percent other beverages. Major components of beverage cost were 40 percent for raw materials, 37 percent for labor, 18 percent for containers, and 5 percent for other.

102. McAllister, C. E., and Clarke, D. A., Jr. CLASS III MILK IN THE NEW YORK MILKSHED: IV. PROCESSING MARGINS FOR MANUFACTURED DAIRY PRODUCTS. U.S. Dept. Agr., Mktg. Res. Rpt. 419, 102 pp., Aug. 1960.

Net returns from the manufacture of dairy products from Class III milk in the New York-New Jersey milkshed remained relatively stable during the 10-year period studied.

103. Monroe, W. J., and Walker, Scott. AN ECONOMIC STUDY OF SMALL FLUID MILK PLANT PROBLEMS IN NORTHERN IDAHO. Idaho Agr. Expt. Sta. Bul. 255, 43 pp., Mar. 1956.

Annual data were obtained from the records of six plants in November 1953. Basic model plants are set up, and operating costs and the effect of increasing volume on costs analyzed.

104. Owens, T. R., and Clarke, D. A., Jr. CLASS III MILK IN THE NEW YORK MILKSHED: III. COSTS OF MANUFACTURING DAIRY PRODUCTS. U.S. Dept. Agr., Mktg. Res. Rpt. 400, 57 pp., May 1960.

Costs of processing Class III milk into selected products at typical plants of three types: A receiving station, a cheddar cheese plant, and a plant processing milk into cream and nonfat dry milk. Costs were estimated at 16.6 cents per hundredweight of milk for the receiving station and from 44.8 to 73.5 cents for manufacturing plants. Estimates were based on requirements for buildings, equipment, labor, and other items of expense for processing milk into selected products.

105. Page, Clayton M., and Walker, Scott A. BUILDING DESIGNS FOR DAIRY PROCESSING PLANTS. Idaho Agr. Expt. Sta. Bul. 297, 27 pp., June 1953.

A summary of the principles of site selection, building flexibility, structural systems and materials, and special construction and material use problems; descriptions for floor plans and estimated building costs for 4 model butter-powder plants; descriptions of physical and maintenance characteristics for use in rating different constructions.

106. Purcell, Joseph C., Goodwin, J. D., and Elrod, J. C. FLUID MILK DISTRIBUTION IN GEORGIA. COSTS AND ALTERNATIVES. Ga. Agr. Expt. Sta. Res. Bul. 17, 30 pp., Nov. 1967.

Budgetary analysis of milk distribution costs and application to pricing.

107. Purcell, Joseph C., and Penny, Newton M. COST OF PROCESSING AND DISTRIBUTING MILK IN THE SOUTH. South. Co-op. Ser. Bul. 45, 40 pp., June 1955.

Analyzes cost per unit in receiving, processing, distribution and administration; processing costs by major cost items as filling costs, containers and supplies; cost comparisons between type of container and size of plant; relationship of costs to volume. Data for this study were gathered from records in 16 fluid milk plants in Georgia, Mississippi, South Carolina, and Tennessee in 1952-53.

108. Purcell, Margaret R. NONFAT DRY MILK PACKAGED FOR HOUSEHOLD USE. MARKETING PRACTICES AND COSTS OF MANUFACTURE AND DISTRIBUTION. U.S. Dept. Agr., Mktg. Res. Rpt. 403, 49 pp., June 1960.

Farmers received 15 cents of each dollar spent for instant nonfat dry milk in December 1958. The rest of the consumer's dollar for this product was divided as follows: Processors, 14 cents; distributors (for instantizing, packaging, advertising, and distributing product), 48 cents; wholesalers, 5 cents; and retailer, 18 cents.

109. Roberts, J. B., Williams, Sheldon W., and Whitted, S. F. MERCHANDISING MILK AND DAIRY PRODUCTS IN RETAIL GROCERY STORES. North Cent. Region. Pub. 78, Ky. Agr. Expt. Sta. Cir. 551, 52 pp., 1957.

Methods of handling and merchandising milk in 235 stores, effectiveness of various displays, handling margins and store sales, income and store margins.

110. *Robinson, Kenneth. A STUDY OF FLUID MILK MARGINS IN NORTHEASTERN CITIES. Harvard Studies in Marketing Farm Products. No. 8-H, 36 pp., June 1954.

Considers factors causing 50 percent higher fluid milk margins in some markets than in others. The cities studied were Boston, Portland, Providence, Hartford, New York, Philadelphia, Baltimore, and Washington, D.C. The intermarket margin relationships and the factors associated with intermarket differences in fluid milk margins are singled out for investigation, based on 1950 data.

111. Rowe, Gordon A. ECONOMICS OF CHEESE MANUFACTURING IN TILLAMOOK COUNTY, OREGON. Oreg. Agr. Expt. Sta. Bul. 529, 31 pp., Dec. 1952.

Relationship of unit cost to volume in cheese plants, based on a study of 16 plants. Cost rates and variable costs for 5 of the plants of different sizes with variations in cost which were not related to differences in size eliminated. Economies of scale in the operations of cheese plants were found but the minimum point in the long-run planning curve of manufacturing cost was beyond the range of volume for plants included in the study.

112. Schlenker, A. A., and Parker, E. J. MARGINS ON FLUID MILK IN THE DULUTH-SUPERIOR MARKETING AREA, 1947-48. U.S. Dept. Agr., Mktg. Res. Rpt. 32, 55 pp., Jan. 1953.

Develops a measure of the composite margin received by dealers for all fluid products sold in the area, and provides comparisons with margins for the individual items. Shows effects on dealers' margins for two different types of quantity discount plans, which enable distributors to calculate precisely the price structure which will yield a chosen overall margin.

113. Tracy, P. H. LAYOUTS AND OPERATING CRITERIA FOR AUTOMATION OF DAIRY PLANTS MANUFACTURING ICE CREAM AND ICE CREAM NOVELTIES. U.S. Dept. Agr., Mktg. Res. Rpt. 750, 46 pp., Dec. 1966.

Layouts and costs for model plants manufacturing (1) 200,000 gallons of ice cream a year and (2) 1 million gallons of ice cream and 250,000 gallons of novelties a year.

114. Walker, Scott A., Preston, Homer J., and Nelson, G. T. AN ECONOMIC ANALYSIS OF BUTTER-NONFAT DRY MILK PLANTS. Idaho Agr. Expt. Sta. Res. Bul. 20, 90 pp., June 1953.

Develops 5 model roller-process and 7 model spray-process butter-powder plants from data collected from a like number of real plants for 1948-49. Uses model plants to analyze relationship between costs and scale of operations and to study efficiency in the utilization of labor, equipment, and other resources. Based on detailed processing costs obtained for each of 17 functions in four broad categories: Overhead, joint operating, butter manufacturing, and powder manufacturing.

115. Wells, M. Allred, and Ward, H. Edward. COSTS, QUALITY, AND PRICES OF FLUID MILK IN RURAL AND URBAN AREAS OF UTAH AND MONTANA. Utah Agr. Expt. Sta. Bul. 365, 40 pp., Dec. 1953.

An analysis of the operating costs of 33 fluid milk processing plants in Utah and 9 in Montana. Discusses the reasons for low unit operating costs. A description of the pricing pattern for fluid milk products in Utah and an analysis of the quality of fluid milk supplied Utah communities are also given.

116. Wolf, Alois F. A BIBLIOGRAPHY ON COSTS, MARGINS AND EFFICIENCY IN MARKETING DAIRY PRODUCTS. U.S. Dept. Agr., Unnumb. Pub., Mar. 1965.

This bibliography contains selected annotated references to studies relating to cost, margins, efficiency and profits in marketing dairy products. It provides a guide to research on these aspects of the various processes involved in moving dairy products from the farm to the consumer.

117. MARKETING COSTS AND MARGINS FOR FRESH MILK. U.S. Dept. Agr., Misc. Pub. 733, 15 pp., Feb. 1959.

Briefly describes the marketing of milk, the cost of performing the various marketing operations, and the variations in these costs and in the price spread between farmers and consumers.

118. *MARKETING MARGINS FOR EVAPORATED MILK. U.S. Dept. Agr., Agr. Mktg. Serv., MTS-104, pp. 9-11, Feb. 29, 1952.

Annual data on evaporated milk price spreads for 1920 to 1951, showing the division of the total margin between manufactures and other marketing agencies.

REGULATION

119. Conner, Maynard C. THE MILK MARKET CONTROL LAW IN VIRGINIA. Va. Agr. Expt. Sta. Bul. 444, 49 pp., June 1951.

Presents a historical sketch of the Virginia Milk Control Law, outlines the administrative organization of the Milk Control Commission, states the powers and functions of the Commission and analyzes the economic conditions which influenced the development of the law.

120. Dahlberg, A. C., and Adams, H. S. SANITARY MILK AND ICE CREAM LEGISLATION IN THE UNITED STATES. Nat. Res. Council Bul. 121, 59 pp., July 1950, Washington, D.C.

Sanitary regulations on milk and ice cream in 48 States and 84 cities with populations of 100,000 or more.

121. Dahlberg, A. C., Adams, H. S., and Held, M. E. SANITARY MILK CONTROL AND ITS RELATION TO THE SANITARY, NUTRITIVE, AND OTHER QUALITIES OF MILK. Nat. Res. Council Pub. 250, 174 pp., 1953. Washington, D.C.

The final report of a comprehensive study of milk supplies and the sanitary regulations of 8 cities. A committee of the National Research Council carried out the project under a contract between the National Academy of Sciences and the USDA. The findings indicate the need for only a limited number of basic requirements in sanitation regulations to insure a wholesale milk supply.

122. *Foelsch, Gertrude G. FEDERAL MILK MARKETING ORDERS AND DAIRY PROGRAMS IN WORLD WAR II. U.S. Dept. Agr., Agr. Monog. 12, 65 pp., Aug. 1951.

Analyses of experiences in individual Federal Order markets, such as the studies of Philadelphia, St. Louis, and Duluth-Superior listed above, require special consideration of wartime regulations that were in effect from 1940 to 1946. This report fills that need.

123. *Foelsch, Gertrude G. THE MARKETING OF MILK IN THE LOUISVILLE AREA UNDER FEDERAL REGULATION. U.S. Dept. Agr., Mktg. Res. Rpt. 43, 323 pp., June 1953.

The evolution and functioning of Federal regulation in a specific milk marketing area are treated thoroughly, both in principle and in detail. Complexities of milk marketing are illustrated in the discussion of such problems as: Changes in the classification procedure; the reconciliation between receipts and utilization; the evolution of the pricing procedure; and attempts to influence seasonality of production.

124. *Harris, Edmond S. EARLY DEVELOPMENT OF MILK MARKETING PLANS IN THE KANSAS CITY, MISSOURI, AREA. U.S. Dept. Agr., Mktg. Res. Rpt. 14, 99 pp., May 1952.

In the period of Federal regulation in the Kansas City milk market covered by this report, there were acute problems with respect to the role of local industry, freedom of entry for new producers, fixing of resale prices, and treatment of producer distributors. The problems are recurrent and this report throws some light on their solution.

125. *Harris, Edmond S., and Blum, Joel L. FEDERAL REGULATION OF MILK MARKETING IN THE DULUTH-SUPERIOR AREA. U.S. Dept. Agr., Agr. Inform. Bul. 68, 112 pp., Aug. 1951.

One of a series of studies summarizing information largely available only from Departmental records and essential for the analysis of milk marketing problems under Federal regulation.

126. *Herrmann, Louis F., and others. REGULATIONS AFFECTING THE MOVEMENT AND MERCHANDISING OF MILK. A STUDY OF THE IMPACT OF SANITARY REQUIREMENTS, FEDERAL ORDERS, STATE MILK CONTROL LAWS, AND TRUCK LAWS ON PRICE, SUPPLY, AND CONSUMPTION. U.S. Dept. Agr., Mktg. Res. Rpt. 98, 124 pp., June 1955.

Study to determine whether and how much various types of laws and regulations interfere with, burden, or obstruct the movement of milk; whether and how much they interfere with the adoption of less costly or more effective marketing methods; and to measure, where possible, the effect of regulations on prices, production, and consumption.

127. Hillman, J. S., Rowell, J. D., and Israelsen, V. L. BARRIERS TO THE INTERSTATE MOVEMENT OF MILK AND DAIRY PRODUCTS IN THE ELEVEN WESTERN STATES. West. Region. Pub., Ariz. Agr. Expt. Sta. Bul. 255, 69 pp., Apr. 1954.

Analysis of laws, regulations, ordinances, and other barriers to free movement of milk and dairy products in the West and their impacts on producers, distributors and consumers.

128. Parry S. P., Alexander, W. H., Berry, C. R., and Wilson, Lowell. INSTITUTIONAL ARRANGEMENTS INFLUENCING THE MOVEMENT OF MILK IN THE SOUTH. South. Co-op. Ser. Bul. 104, 43 pp., Apr. 1965.

Possible institutional restrictions on milk movement in the South. Probable effect of sanitary regulations, State milk orders, State fair trade laws, Federal milk orders, and tranportation regulations.

129. Purcell, Margaret R., and Herrmann, Louis F. EXPERIENCE WITH CLASSIFICATION OF MILK IN FEDERAL ORDER MARKETS. U.S. Dept. Agr., Mktg. Res. Rpt. 288, 78 pp., Dec. 1958.

Reviews the experience with classified pricing in 68 fluid milk markets under Federal regulation at the end of 1957, including the number of classes and reasons therefor, the bases for classification of (1) established and (2) new products, and reclassification to meet changed market conditions of special situations.

130. *Swantz, Alexander. ECONOMIC EFFECTS OF FEDERAL REGULATION OF THE MINNEAPOLIS-ST. PAUL FLUID MILK MARKET. U.S. Dept. Agr., Mktg. Res. Rpt. 11, 218 pp., May 1952.

Analyzes in detail distinctive features of the Minneapolis-St. Paul market, including the location of the market in an intensive dairy area and competition among cooperatives for a share in the market as influenced by the terms of the regulations.

131. *Swantz, Alexander. FEDERAL REGULATION OF FLUID MILK MARKETING IN THE CLINTON, QUAD CITIES, AND DUBUQUE MARKETING AREA. U.S. Dept. Agr., Mktg. Res. Rpt. 37, 165 pp., Apr. 1953.

An analysis of the economic effects of past and present Federal milk regulatory programs on the marketing and pricing of fluid milk in these markets. Considers

such distinct problems as the regulation of a small market and the growth and eventual intermingling of the milk supply and distribution systems of adjacent markets.

PRICING, PRICES, PRICE-REPORTING

132. Blum, Joel L., and March, Robert W. THE "18 CONDENSERY" MILK PRICE SERIES. U.S. Dept. Agr., Unnumb. pub., 19 pp., Oct. 1952.

A descriptive report concerning a price series widely used in computing minimum prices under Federal milk marketing orders. The report describes the plants and their pricing and milk procurement practices.

133. Bowring, J. R. SUPPLY AND PRICE RELATIONSHIPS FOR NEW HAMPSHIRE FLUID MILK MARKETS. N. H. Agr. Expt. Sta. Bul. 389, 15 pp., Apr. 1952.

Delineates market boundaries for New Hampshire milksheds designed to minimize the distance milk must be transported.

134. Bredo, William, and Rojko, Anthony S. PRICES AND MILKSHEDS OF NORTH-EASTERN MARKETS. Northeast Region. Pub. 9, Mass. Agr. Expt. Sta. Bul. 470, 103 pp., Aug. 1952.

Applies price and location theory to milk marketing in the Northeast in order to determine fluid milk and cream prices at the city plant in the several markets which will result in the most economical use of milk supplies in the region. Makes suggestions for efficient milk pricing and for adjustments in milksheds.

135. Bressler, Raymond G., Jr. PRICING RAW PRODUCTS IN COMPLEX MILK MARKETS. Agr. Econ. Res. 10(4): 113-130, Oct. 1958.

The dairy industry is based on the production of a raw product that is nearly homogeneous--whole milk--on farms geographically scattered, and the disposal of this raw product in alternative forms--fluid milk, cream, manufactured products--and to alternative metropolitan markets. This study develops models which suggest principles of efficient pricing and utilization, within the constraint of a classified system of discriminatory prices.

136. Butz, William T. GEOGRAPHIC STRUCTURE OF MILK PRICES, 1960-61. U.S. Dept. Agr., ERS-71, 11 pp., Aug. 1962.

Analysis of the relationship between dealers' buying prices for milk in markets throughout the country and the distance from the geographic center of milk production in the Midwest in 1960-61, with comparisons with 1957-58 and 1953-54.

137. Clarke, D. A., Jr., and Herrmann, Louis F. CLASS III MILK IN THE NEW YORK MILKSHED. VI. ECONOMIC ANALYSIS OF CLASS III PRICING. U.S. Dept. Agr., Mktg. Res. Rpt. 466, 52 pp., Mar. 1961.

Discusses principles of efficient pricing in fluid milk markets under perfect competition, and how these principles might be modified to fit conditions of seasonally fluctuating milk supplies and a system of pricing according to use.

138. *Clarke, D. A., Jr., McAllister, C. E., and Agnew, D. B. CLASS III MILK IN THE NEW YORK MILKSHED. II. AN ECONOMIC DESCRIPTION OF THE MANUFACTURED DAIRY PRODUCTS INDUSTRY. U.S. Dept. Agr., Mktg. Res. Rpt. 396, 28 pp., Apr. 1960.

Describes operations of milk manufacturing plants in the New York-New Jersey milkshed. Nearly 40 percent of milk receipts during 1958 were used for purposes other than fluid milk or cream. Disposing of these Class III supplies is difficult because flow of milk varies throughout the year. For the market as a whole, 2.5 times more milk is available for manufacture in May than in November.

139. Cobb, Fields W., Jr., and Clarke, D. A., Jr. CLASS III MILK IN THE NEW YORK MILKSHED. I. MANUFACTURING OPERATIONS. U.S. Dept. Agr., Mktg. Res. Rpt. 379, 36 pp., Jan. 1960.

A summary description in graphic form of the manufactured dairy products industry in this area, including types and location of products manufactured, interregional plant shipments of milk for manufacturing purposes and of manufactured dairy products, and regional production patterns for both pool plants and nonpool plants.

140. Cook, Hugh L., Kelley, Paul L., Koller, Fred E., and Miller, Arthur H. BUTTER PRICING AND MARKETING AT COUNTRY POINTS IN THE NORTH CENTRAL REGION. North Cent. Region. Pub. 26, Minn. Agr. Expt. Sta. Tech. Bul. 203, 59 pp., June 1952.

Summarizes research on butter pricing and marketing at country points to test the hypothesis that central market quotations underquote the butter market and that many creameries suffer a disadvantage of selling butter due to a lack of market information as a basis for bargaining. The report deals with packaging butter, destination of shipped butter, marketing channels, sales agreements used, decisions on where to sell butter, conditions of sale, pricing butter to patrons and local trade, and an analysis of price differences of shipped butter.

141. *Foelsch, Gertrude G. SEASONALITY OF MILK PRODUCTION UNDER THE LOUISVILLE FALL PREMIUM PLAN. U.S. Dept. Agr., Mktg. Res. Rpt. 63, 47 pp., May 1954.

The seasonal pattern of production and turnover among producers in the Louisville market under the influence of the fall premium plan are the principal subjects of this report. It covers 9 years of experience since the plan was adopted.

142. Foelsch, Gertrude G., and Cook, H. F. AN ANALYSIS OF FEDERAL COURT DECISIONS RELATING TO THE MARKETING OF FLUID MILK. Wis. Agr. Expt. Sta. Res. Bul. 200, 100 pp., Jan. 1957. (AMS cooperating.)

Report shows how Supreme Court decisions led to changes in the basic enabling legislation and sometimes to amendments in the provisions of milk orders. It

indicates how essential approval and legal directions of the Court was, and is, to the attainment of orderly marketing under the milk order program.

143. Freeman, Robert E. GEOGRAPHIC PATTERN OF FLUID MILK PRICES: A COMPUTER ANALYSIS. U.S. Dept. Agr., Mktg. Res. Rpt. 818, 25 pp., Apr. 1968.

Markets for fluid milk have remained essentially local longer than those for most agricultural commodities. Class I milk prices often exceed cost of transporting milk from one market to another. The research model applies reactive programming techniques to data for the Federal order markets. It shows what the geographic pattern of Class I prices in the orders would be if milk flowed between markets wherever Class I prices differed by more than hauling costs. The most basic assumption is that most local market distinctions have vanished. Features of the model presented herein include (1) the free flow of milk, bulk or packaged, at Class I prices; (2) a transfer cost of 1.5 cents per hundredweight each 10 miles, measured between market centers; (3) a supply-demand adjuster in each market to raise prices in low-priced markets from which shipments are indicated and to reduce prices in high-priced markets as local supplies are displaced by milk from lower priced markets; and (4) demand functions to adjust local consumption to price changes resulting from shipments indicated by the model.

144. Harris, Edmond S. CLASSIFIED PRICING OF MILK. SOME THEORETICAL ASPECTS. U.S. Dept. Agr., Tech. Bul. 1184, 106 pp., Apr. 1958.

Classified pricing of milk is the prevalent system by which farmers sell milk to handlers in city markets; handlers pay different prices for milk in accordance with the way they use it. This report goes into the functions and economic consequences of classified pricing and studies some of the conflicting interests involved. Special emphasis is given to the long-period effects of attempts to use classified pricing as a device for enhancing returns to dairy farmers.

145. Harris, Edmond S. PRICE WARS IN CITY MILK MARKETS. U.S. Dept. Agr., Agr. Econ. Rpt. 100, 95 pp., Oct. 1966.

Precipitating and basic causes of price wars; appraisal of harmful and beneficial aspects within the framework of the competitive processes of city milk markets; case studies in 13 city markets.

146. Hassler, James B. PRICING EFFICIENCY IN THE MANUFACTURED DAIRY PRODUCTS INDUSTRY. Calif. Agr. Expt. Sta., HILGARDIA, Vol. 22, No. 8, 99 pp., Aug. 1953.

A report of an investigation evaluating the price results of the U.S. dairy products industry from the plant level to the wholesale level. Emphasis is placed on intermarket product prices in some major cities, on relative net prices of products for processing plants, and the connection between the latter values and producer prices for milk.

147. Herrmann, Louis F., Agnew, D. B., and Clarke, D. A., Jr. CLASS III MILK IN THE NEW YORK MILKSHED. V. PROCESSORS' DECISIONS ON UTILIZATION. U.S. Dept. Agr., Mktg. Rpt. 462, 28 pp., Mar. 1961.

This report deals with the extent to which changes in output of the major products of Class III milk were associated with change in margins for these products in the 5 or 10 years ending with 1957. It also gives results of interviews with officials of many of the firms that handled Class III milk. These officials were asked what considerations affected their decisions on how they use Class III milk.

148. *Herrmann, Louis F., and Smith, Helen V. GEOGRAPHIC STRUCTURE OF MILK PRICES, 1957-58. U.S. Dept. Agr., AMS-328, July 1959.

Analysis of relationship between dealers' buying prices for fluid milk in markets throughout the country and the distance from the geographical center of milk production in the Midwest in 1957-58.

149. Lasley, Floyd A. GEOGRAPHIC STRUCTURE OF MILK PRICES, 1964-65. U.S. Dept. Agr., ERS-258, 7 pp., Sept. 1965.

Intermarket price structure, Class I and blend prices, 1964-65, and changes since 1953-54.

150. Mathis, Anthony G. DESCRIPTION AND ANALYSIS OF THE IOWA-MINNESOTA-WISCONSIN BUTTER REPORT. U.S. Dept. Agr., Mktg. Res. Rpt. 468, 24 pp., Apr. 1961.

Description of the report of the USDA Market News Service of net prices received by midwestern creameries for butter. Analysis of the number of plants and the amount of butter covered by the report, the relationship of prices in each State to those in other States, and the reasons for the range in net prices.

151. Mathis, Anthony G. PROBLEMS IN INITIATING A REPORT OF PRICES RECEIVED FOR BUTTER BY MIDWESTERN CREAMERIES. U.S. Dept. Agr., AMS-292, 22 pp., Feb. 1959.

A study of 38 Iowa creameries shows it is feasible to report average weekly net prices based on a sample of creameries. These prices can be expected to show changes from 1 week to another, within one-half cent of the true change in the average price, in 95 percent of repeated trials. This degree of accuracy is possible because transportation and other charges per pound of butter, paid by individual creameries for shipping butter, usually fall close to the average of these charges paid by all creameries. Also, prices reported for butter sold to receivers at interior points were within the range of prices reported for butter sold to receivers at central markets.

152. *March, Robert W. THE PRICING OF SURPLUS MILK IN THE CHICAGO MARKET. U.S. Dept. Agr., PMA, 79 pp., Nov. 1949.

A report of research which led to a change in the minimum price required to be paid by handlers under the Chicago order for milk used in the manufacture of butter and cheese. The pricing formula developed in this research report incorporated notable refinements of yield and cost factors.

153. March, Robert W., and Herrmann, Louis F. THE ESTABLISHMENT OF CENTRAL MARKET BUTTER PRICES IN CHICAGO AND NEW YORK. U.S. Dept. Agr., Mktg. Res. Rpt. 53, 86 pp., June 1953.

A description of the manner in which butter prices are established. The major criticisms of central market butter prices are examined, with particular attention to the volume of trading in wholesale bulk butter on the exchange, and outside the exchanges. Recommendations are made, which, if adopted, might increase the volume of trading on the spot butter boards of the Chicago and New York mercantile exchanges and thereby broaden the basis for establishing butter values.

154. March, Robert W., Anderson, Elsie D., and Klein, Jack E. ANALYSIS OF SHORT-TIME CHANGES IN THE PRICE OF BUTTER AT CHICAGO. U.S. Dept. Agr., Mktg. Res. Rpt. 194, 67 pp., Aug. 1957.

Since World War II, the price of butter has tended to fluctuate erractically when it was not being actively supported by Government purchases. It was found that relatively few day-to-day changes in price could be associated with published indicators of short-time changes in supply and demand. This study evaluates the fluctuations, relationship between price and demand, and analyzes factors affecting price.

155. Moffett, W. W., Jr., and Collins, Warren E. THE EFFECT OF METHODS OF PAYING FARMERS FOR MILK ON SEASONALITY OF PRODUCTION IN SELECTED SOUTHERN MARKETS. South. Co-op. Ser. Bul. 38, 22 pp., June 1954.

Describes pricing and other regulations in the South and the kinds of pricing plans used in the South to pay farmers for milk. Analyzes the plans by determining the price incentive offered for uniform production and shows the seasonality of deliveries experienced in Southern markets under various plans. Emphasizes the relationship between pricing plans and seasonality of production.

156. Morris, Milton E., Burnett, Claron, and Clodius, Robert L. PROCUREMENT POLICIES AND PRACTICES OF A SELECTED GROUP OF DAIRY PROCESSING FIRMS. PART 4. THE EFFECT OF AN EXPERIMENTAL MILK PRICE REPORTING SERVICE. Wis. Agr. Expt. Sta. Res. Bul. 252, 31 pp., Aug. 1964.

Study of the effects of an experimental service reporting the paying prices of each buyer in an area in Wisconsin. Recipients of report were better informed but no more responsive to price than other farmers.

157. *Pritchard, Norris T. AN IMPROVED METHOD OF PRICING FAT AND NONFAT SOLIDS IN MILK. U.S. Dept. Agr., Agr. Mktg. Serv., 23 pp., July 1954.

Reviews pricing plans designed to take account of the nonfat solids content of milk as well as fat solids content. Presents a recommended plan based on national market values of butter and nonfat dry milk solids and physical relationships in the solids content of milk. Develops milk fat price differentials applicable to prices paid by handlers (use-class prices) and to blend prices paid to producers. Evaluates the recommended plan.

158. Preston, Homer J., Swantz, Alexander, and Herrmann, Louis F. THE MARKETING AND PRICING STRUCTURE FOR SKIM MILK PRODUCTS IN KANSAS, MISSOURI, AND OKLAHOMA MARKETS. U.S. Dept. Agr., Mktg. Res. Rpt. 166, 30 pp., Apr. 1957.

Analyzes the marketing and pricing structure of plain condensed skim milk and of spray and roller process nonfat dry milk solids in 1951-54. Also provides information about the prices received by handlers and nonhandlers for the major products manufactured from surplus milk.

159. Spencer, Leland, and Christensen, S. Kent. MILK CONTROL PROGRAMS OF THE NORTHEASTERN STATES. PART I. FIXING OF PRICES PAID AND CHARGED BY DEALERS. Northeast Region. Pub. 21, Cornell Agr. Expt. Sta. Bul. 908, 136 pp., Nov. 1954.

The origin and evolution of State milk control; standards and methods of fixing prices paid to producers and at wholesale and retail.

160. Spencer, Leland, and Christensen, S. Kent. MILK CONTROL PROGRAMS OF THE NORTHEASTERN STATES. PART II. ADMINISTRATIVE AND LEGAL ASPECTS AND COORDINATION OF STATE AND FEDERAL REGULATION. Northeast Region. Pub. 23, Cornell Agr. Expt. Sta. Bul. 918, 128 pp., Nov. 1955.

Administrative organization; financing of milk control; licensing and bonding; enforcement; legal issues and court decisions; statistical and information service; and interstate and Federal-State cooperation.

161. *Swantz, Alexander. THE MARKETING AND PRICING STRUCTURE FOR BULK SWEET CREAM IN KANSAS, MISSOURI, AND OKLAHOMA MARKETS. U.S. Dept. Agr., Mktg. Res. Rpt. 74, 58 pp., Nov. 1954.

Organization of the market, characteristics of buyers and sellers, average prices, price structure, in 1951-53.

162. Swantz, Alexander. PRICES AND OTHER PAYMENTS FOR MILK BY MANUFACTURERS IN KANSAS, MISSOURI, AND OKLAHOMA MARKETS. U.S. Dept. Agr., Mktg. Res. Rpt. 81, 40 pp., Mar. 1955.

Analysis of the level and structures of prices announced as paid and prices plus other payments actually made for upgraded whole milk at unregulated milk processing plants, 1951-53. Part of a study of pricing of surplus milk.

163. *Walker, Scott A. PRICING MILK TO FARMERS AT BUTTER-NONFAT DRY MILK PLANTS. Agr. Econ. Res. 5(4): 85-87, Oct. 1953.

Describes and analyzes an improved pricing plan developed from a detailed analysis of physical and monetary input-output relationships in specialized butter-powder plants in the Pacific Northwest.

164. Williams, Sheldon W., Bartlett, Roland W., Baumer, Elmer F., and others. THE MECHANICS OF SUPPLY-DEMAND ADJUSTERS FOR MIDWESTERN MILK MARKETS. North Cent. Region. Pub. 134, Ill. Agr. Expt. Sta. Bul. 684, 62 pp., Apr. 1962.

Describes characteristics of the various types of supply-demand adjusters used in Federal milk marketing orders, relates the characteristics of an adjuster to its behavior, and discusses desirable specifications for an adjuster under specific conditions.

165. GOVERNMENT'S ROLE IN PRICING FLUID MILK IN THE UNITED STATES. U.S. Dept. Agr., Agr. Econ. Rpt. 152, 31 pp., Dec. 1968.

State and Federal control programs for fluid milk prices.

SCHOOL MILK AND SPECIAL MILK PROGRAMS

166. *Anderson, Kenneth E. THE SPECIAL MILK PROGRAM IN ST. LOUIS, MISSOURI. A Preliminary report. U.S. Dept. Agr., AMS-157, 12 pp., Dec. 1956.

Effects of special milk program on milk consumption in St. Louis elementary schools, 1954-56.

167. Anderson, Kenneth E. PARTICIPATION OF SCHOOLS AND PUPILS IN SCHOOL LUNCH PROGRAMS IN ELEMENTARY AND SECONDARY SCHOOLS OF THE UNITED STATES. U.S. Dept. Agr., Mktg. Res. Rpt. 262, 48 pp., Aug. 1958.

Sample survey of 4,347 public elementary and secondary schools in March 1957 to determine the extent of school and pupil participation in feeding programs and factors associated with participation of pupils.

168. Anderson, Kenneth E. THE SPECIAL SCHOOL MILK PROGRAM IN LOS ANGELES, CALIFORNIA. U.S. Dept. Agr., AMS-179, 19 pp., Mar. 1957.

Los Angeles children increased their consumption of milk in schools more than 100 percent last year as a result of participation in the Special Milk Program. This preliminary report studying milk consumption in Los Angeles among school children shows a price reduction and an increase in size of containers for milk. Average daily milk consumption per pupil in schools serving milk more than doubled in the first year after the Special Milk Program began in Sept. 1955.

169. Anderson, Kenneth E. THE SPECIAL MILK PROGRAM. ITS EFFECT ON CONSUMPTION IN ST. LOUIS AND LOS ANGELES SCHOOLS. U.S. Dept. Agr., Mktg. Res. Rpt. 209, 45 pp., Jan. 1958.

Marked increases took place in the average daily milk consumption per pupil in St. Louis and Los Angeles public schools serving milk after introduction of the Special Milk Program in 1955. This report analyzes the effect of this program on milk consumption in elementary and secondary schools.

170. Anderson, Kenneth E. MILK CONSUMPTION IN THE NATION'S SCHOOLS. U.S. Dept. Agr., Mktg. Res. Rpt. 284, 29 pp., Nov. 1958.

Describes the extent of milk services in the public schools. Daily consumption of milk per pupil averaged 0.7 half-pint in schools participating in the Special Milk Program during the survey period, 40 percent more than the average of 0.5 half-pint in other schools serving milk. During the month of the survey, children in public elementary and secondary schools purchased 409 million half-pints of milk. Shows the consumption of milk in schools by type of lunch service, regions, population density, size of school in terms of enrollment, and by grade level.

171. Anderson, Kenneth E., and Hawes, R. L. MILK CONSUMPTION IN NONPROFIT SUMMER CAMPS. U.S. Dept. Agr., Mktg. Res. Rpt. 333, 22 pp., June 1959.

Describes a survey of 109 nonprofit summer camps in 3 Northeastern States. Number of times milk was served each day, milk purchasing practices followed by camp directors, number and kinds of competing beverages available, and methods of serving were studied.

172. Anderson, Kenneth E., and Hoofnagle, William S. MILK CONSUMPTION BY CHILDREN AT SCHOOL AND AT HOME IN RELATION TO SPECIAL MILK PROGRAM. U.S. Dept. Agr., Mktg. Res. Rpt. 408, 19 pp., June 1960.

Children in grades 5 through 9, in schools participating in the Special Milk Program, consumed 7 percent more milk during a representative 24-hour period than children attending other schools. Almost 29 percent of children in Special Milk Program schools drank milk other than that normally served as part of the plate lunch; only 16 percent of the children in schools with milk services but not under the Special Milk Program drank extra milk.

173. Williams, Sheldon W., Quackenbush, G. G., Bartlett, Roland W., and others. INCREASING MILK CONSUMPTION IN SCHOOLS. North Cent. Region. Pub. 60, Mich. Agr. Expt. Sta. Bul. 403, 56 pp., Aug. 1955.

Survey of school milk programs in the 12 North Central States and Kentucky, and of more intensive studies in Illinois, Michigan, Ohio, and Wisconsin, analysis of factors affecting consumption in schools serving milk.

174. RECOMMENDATIONS FOR MORE EFFECTIVE SCHOOL MILK PROGRAMS. North Cent. Region. Pub. 74, Ohio Agr. Expt. Sta. Res. Bul. 777, 12 pp., July 1956.

Recommendations resulting from a series of studies of school milk programs in the North Central States and Kentucky.

QUALITY

175. *Herrmann, Louis F. INDIRECT ESTIMATES OF THE SOLIDS-NOT-FAT CONTENT OF MILK: THE BASIS FOR, AND HISTORY OF, PUBLISHED METHODS AND EQUATIONS. U.S. Dept. Agr., Agr. Mktg. Serv., 44 pp., Mar. 1954.

A review of published research dealing with the relationship between the solids-not-fat, the fat and the specific gravity of milk. Lists 75 equations and discusses their derivation and factors affecting their accuracy.

176. *Herrmann, Louis F., Anderson, Elsie D., and Bele, Frank A. ESTIMATING THE SOLIDS-NOT-FAT CONTENT OF MILK. U.S. Dept. Agr., Mktg. Res. Rpt. 65, 13 pp., May 1954.

Fat percentages in milk could be estimated within .2 percent for 2 out of 3 samples using the Babcock test and the Quevenne lactometer. Using the butterfat test above the solids-not-fat could be estimated to within 0.3 percent in 2 out of 3 samples.

177. Herrmann, Louis F., Bryan, W. G., and Anderson, Elsie D. SAMPLING ROUTINES AND THE ACCURACY OF PATRONS' BUTTERFAT TESTS. U.S. Dept. Agr., Mktg. Res. Rpt. 66, 23 pp., May 1954.

Presents statistical analyses not previously applied to the problem of sampling and testing milk delivered by producers. Composite samples are compared with fresh samples, and the numbers of fresh samples equal in accuracy to composite samples in various respects are shown.

178. *Mathis, Anthony G., and Anderson, Elsie D. YIELD OF NONFAT DRY MILK SOLIDS FROM A UNIT OF MILK. U.S. Dept. Agr., Mktg. Res. Rpt. 126, 18 pp., June 1956.

Yield of nonfat dry milk solids can be estimated from the butterfat content of the whole milk, when the test of the cream separated from the milk is known. On the average, each change of 1 percent in whole milk butterfat content is accompanied by a 0.4863-pound change in nonfat milk solids recovered from 100 pounds of liquid skim milk.

179. Mathis, Anthony G., Johnson, R. W., and Anderson, Elsie D. SELECTED PROBLEMS IN BUTTERFAT SAMPLING AND TESTING. U.S. Dept. Agr., Mktg. Res. Rpt. 482, 34 pp., June 1961.

Report of eight studies to determine how and to what extent the use of different techniques in sampling and testing butterfat may affect test results.

180. *Stein, Fred, Mathis, Anthony G., and Herrmann, Louis F. COSTS OF BUTTERFAT SAMPLING AND TESTING PROBLEMS. U.S. Dept. Agr., AMS-212, 19 pp., Oct. 1957.

Relative costs of testing programs for estimating the average monthly butterfat content of producer milk shipments.

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